

CLAIMS

1. Selected lactic bacterial strain belonging to the genus *Lactobacillus* or *Pediococcus*, which strain has the capability of effecting the conversion of malic acid into lactic acid, said bacterium being characterised in that, when it is introduced at a concentration of between 10^6 and $5 \cdot 10^7$ UFC/ml, directly in the dried, freeze-dried or frozen state, into a wine which has an alcohol degree of 10 % or more and a pH greater than or equal to 3.5,

- i) it converts at least 5 %, and preferably at least 10 %, of the malic acid into lactic acid in 5 days after inoculation of said wine, and
- ii) it converts at least 10 %, and preferably at least 25 %, of the malic acid into lactic acid in 10 days after inoculation of said wine.

2. Lactic bacterial strain according to claim 1, characterised in that, when it is introduced at a concentration of between 10^6 and $5 \cdot 10^7$ UFC/ml, directly in the dried, freeze-dried or frozen state, into a wine which has an alcohol degree of 10 % or more and a pH greater than or equal to 3.6,

- iii) it converts at least 10 %, and preferably at least 15 %, of the malic acid into lactic acid in 5 days after inoculation of said wine, and
- iv) it converts at least 25 %, and preferably at least 40 %, of the malic acid into lactic acid in 10 days after inoculation of said wine.

3. Lactic bacterial strain according to one of the preceding claims, characterised in that it is homofermentary.

4. Malolactic bacterial strain according to one of the preceding claims, possessing in addition one or more of the following characteristics:

- it does not produce biogenic amine from the aminated precursors,
- it does not degrade the glycerol, and
- it does not degrade the tartaric acid.

5. Lactic bacterial strain according to claim 4, characterised in that it has the capability, when it is introduced directly at a concentration of $2 \cdot 10^6$ UFC/ml into a wine at a temperature greater than or equal to 18° C, having an SO₂ content of between 0 and 15 mg/l, an alcohol content greater than or equal to 10 % and a pH of 3.7 or more,

- i) of converting 15 % of the malic acid into lactic acid in 5 days after inoculation of said wine, and
- ii) of converting 40 % of the malic acid into lactic acid in 10 days after inoculation of said wine.

6. Lactic bacterial strain according to claim 4, characterised in that it has the capability, when it is introduced directly at a concentration of $2 \cdot 10^6$ UFC/ml into a wine at a temperature greater than or equal to 18° C, having an SO₂ content of between 0 and 15 mg/l, an alcohol content greater than or equal to 10 % and a pH of 3.7 or more,

- i) of converting 50 % of the malic acid into lactic acid in 5 days after inoculation of said wine, and

- ii) of converting 80 % of the malic acid into lactic acid in 10 days after inoculation of said wine.

7. Malolactic bacterial strain according to one of the preceding claims, selected from the group formed from *Lactobacillus plantarum*, *Lactobacillus casei*, *Lactobacillus delbrückii*, *Pediococcus acidilactici*, *Pediococcus damnaceus*, *Pediococcus pentosaceus*, *Pediococcus parvulus*, *Pediococcus cerevisiae*.

8. Malolactic bacterial strain according to the preceding claim, selected from the group composed of *Lactobacillus plantarum* DSM-9916, CNCM I-2924 *Pediococcus acidilactici* CNCM MA 18/5M.

9. Preparation of lactic bacteria comprising one or more strains according to one of the preceding claims.

10. Method of converting malic acid into lactic acid in a wine which has a pH greater than or equal to 3.5, said method consisting of introducing a preparation of lactic bacteria according to claim 9, directly in the dried, freeze-dried or frozen state, into said wine, at a concentration of between 10^6 and 5.10^7 UFC/ml, at a temperature greater than or equal to 18° C, when the alcohol degree has reached at least 10 %, and of maintaining the wine in conditions which permit the development of the MLF, to obtain a mature wine which has a malic acid content lower than 0.2 g/l.

11. Method of converting malic acid into lactic acid in a wine which has a pH greater than or equal to 3.5, said method consisting of introducing a preparation of lactic bacteria comprising one or more

strains according to claim 3, directly in the dried, freeze-dried or frozen state, into said wine, at a concentration of between 10^6 and 5.10^7 UFC/ml, at a temperature greater than or equal to 18° C, when the alcohol degree has reached at least 5 %, and of maintaining the wine in conditions which permit the development of the MLF, to obtain a mature wine which has a malic acid content lower than 0.2 g/l.

12. Method of converting malic acid into lactic acid according to one of claims 10 or 11, in which said preparation possesses in addition one or more of the following characteristics:

- it does not produce biogenic amine from the aminated precursors,
- it does not degrade the glycerol, and
- it does not degrade the tartaric acid.

13. Method of converting malic acid into lactic acid according to one of claims 10 to 12, in which said preparation comprises one or more malolactic bacterial strains selected from the group formed from *Lactobacillus plantarum*, *Lactobacillus casei*, *Lactobacillus delbrückii*, *Pediococcus acidilactici*, *Pediococcus damnaceus*, *Pediococcus pentosaceus*, *Pediococcus parvulus*, *Pediococcus cerevisiae*.

14. Method of converting malic acid into lactic acid according to one of claims 11 to 13, in which said preparation comprises one or more malolactic bacterial strains selected from the group composed of *Lactobacillus plantarum* DSM-9916, CNCM I-2924 *Pediococcus acidilactici* CNCM MA 18/5M.

15. Method according to claim 14, in which a preparation of malolactic

bacteria comprising *Lactobacillus plantarum* CNCM I-2924 is added to a wine with a pH greater than or equal to 3.9, the concentration in alcohol of which is greater than 11 %.

16. Method according to claim 14, in which a preparation of malolactic bacteria, comprising *Lactobacillus plantarum* DSM-9916 or *Pediococcus acidilactici* CNCM MA 18/5M or a mixture of these, is added to a wine with a pH greater than or equal to 3.7, the concentration in alcohol of which is greater than 12 %.

17. Mature wine obtained by means of the method according to one of claims 10 to 16.